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ABSTRACT

This report presents the statistical results of two pre- and post-test measures of learning arising out of two different second language computer assisted language learning (CALL) contexts. Current uses of the computer in foreign language learning reflect two distinct sets of assumptions about the object of learning and the processes of learning and teaching. One of these sets is labeled instrumental, the other is called agentive. In the agentive mode, the computer is anthropomorphized. Designed as a tutor, taskmaster or drillmaster, the computer offers a decontextualized language object for the learner to manipulate. It is an agent in the learning process that determines the learning content, the learning paths as well as what counts as correct or incorrect language use. In the instrumental mode, the computer designed as a word processor, a database or a communications program supports and depends for its design in a dialectical mode on the collaborative activity of a language learning community. No longer an instructional agent, the computer supports open ended language use. Participants (N=13) were engaged in a newspaper producing activity system mediated by an instrumental mode computer technology, using the computer to write, revise, and comment on articles, or to communicate with others using electronic mail. A control group (N=11) studied the same subject matter (in a university-level French language and literature course), but used used the computer in an agentive mode (a weekly fill-in-the blank exercise). Comparison of the two modes indicates that the instrumental mode of computer use and the newspaper production activity system should be considered as an alternative to the traditional agentive mode. (JL)

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Instrumental and Agentive CALL in Learning French as a Foreign Language

Françoise Herrmann

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Current uses of the computer in foreign language learning reflect two distinct sets of assumptions about the object of learning and the processes of learning and teaching. One of these sets I call the instrumental, the other I call the agentive. In the agentive mode the computer is anthropomorphized. Designed as a tutor, taskmaster or drillmaster the computer offers a decontextualized language object for the learner to manipulate. It is an an agent in the learning process that determines the learning content, the learning paths as well as what counts as correct or incorrect language use.

In the instrumental mode, the computer designed as a word processor, a database or a communications program supports and depends for its design in a dialectical mode on the collaborative activity of a language learning community. No longer an instructional agent, the computer supports open ended language use as participants engaged in a newspaper producing activity system, for example, use the computer to write, revise and comment articles or to communicate with one another using electronic mail.

In this paper I will present the statistical results of two pre and post test measures of learning arising out of these differential L2 CALL contexts.

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Instrumental and Agentive CALL in Learning French as A Foreign Language

Françoise Herrmann

I Background of the study

Underlying the use of the computer for language learning and in particular foreign language learning there are a set of contrasting assumptions about language and language learning praxis. One set of assumptions creates a mode of computer use that is anthropomorphic and that I refer to as the agentive mode. The other set of assumptions creates a mode of computer use that is dialectic and that I refer to as the instrumental mode.

In the agentive mode, which is the dominant and current mode of computer use, the assumption about the object of learning or language is that it is a closed system that can be manipulated in abstraction of the social context that would under natural conditions subsume language behavior. It is borrowed from Chomskyan linguistics[1]. The assumption about language learning is that it is a matter of balanced four skills practice learned through repetition and memorization. The assumption about language teaching is that it involves the carefully sequenced presentation of language structures of "building blocks". Together these assumptions about learning and teaching are borrowed from the behaviorist paradigm and its realization in foreign language learning as the audio-lingual method. Thus, when these assumptions about language and language learning praxis are all operational, the computer is designed as a more or less intelligent "tutor" "drillmaster" or "task master". As an agent in learning and teaching it offers a series of decontextualized and predetermined language learning tasks. It determines the learning path and what constitutes optimal or correct performance with various degrees of response sensitivity. In turn, the user manipulates the language objects that are presented, filling in blanks, selecting items from multiple choice, alternatively querying the system for help in abstraction of a meaningful human relational system. In contrast to the agentive mode of computer use there is also an instrumental mode of computer use where the perspective on language is open-ended. No

[1]Chomsky, N. Current Issues in Linguisitc Theory. The hague: Mouton and Co., Third Edition. 1967.

longer agent in the learning and teaching process the computer mediates colloborative language behavior that is outside of the machine. Thus, as a word processor or a communication network, for example, the computer both creates and supports language learning activities extrinsic to its design. As a word processor, message clearing house, data base or mail bag program the computer mediates such learning and teaching activities as the production of a local tourist brochure (Alaska QUILL project for first language acquisition[2]), the creation of an interdepartmental peace conference[3] where learners divided into participant delegations at different sites create conference documents which are shipped electronically to teams of translators in the foreign language departments for translation and finally in the such activities as the creation of an east-coast west-coast newspaper as in the Stanford-Harvard Collaborative writing project[4]. The set of assumptions about language and language learning praxis operational in this mode of computer use are respectively borrowed from Hymes[5], second language acquisition psycholinguistics[6] and Soviet activity theory[7] in a contemporary paradigm of literacy[8]. Thus, the object of learning or language is viewed as communicative competence or SPEAKING. It belongs to the language learning community and it is a system through which we perform socially to

[2]Bruce, B. and A. Rubin "The QUILL Writing Project for Alaska: Final Report". Report No. 5789. Bolt, Berenek and Newman Inc. October 1984.

[3]Brecht, R.d. et al. "Computer Simulation in the Teaching of Foreign Language and International Studies". Paper presented at the ACTFL Conference in San Francisco. 25 Nov. 1983.

[4]Barson, J. and J. Frommer "Stanford- Harvard Collaborative Computer-mediated, Inter-Active, Writing Project." Manuscript 1989.

[5]Hymes, D. "On Communicative Competence". In J.P. Pride and J. Holmes (Eds.) Sociolinguistics. Harmondsworth, Great Brittain: Penguin Books, 1972, pp.269-293.

[6]Krashen, S.D. Principles and Practice in Second Language Acquisition. New York: Pergamon Press, 1982.

[7]Leont'ev, A.N "The Problem of Activity in Psychology". In James V. Wertsch (Ed.) The Concept of Activity in Soviet Psychology. White Plains: Sharpe, 1981, pp.37-69.

[8]Langer, J " A Sociocognitive Perspective on Literacy". In J. Langer (Ed.) Language, Literacy and Culture: Issues for Society and Schooling. Norwood, NJ: Ablex. 1987.

accomplish things in the world (in Austin's sense[9]). Language learning and teaching are viewed as productive individual and collaborative processes invoked in an activity system and realized through language in a functional way. The computer offers no pedagogical content and it does not determine the teaching and learning tasks. Rather it is designed as a tool that both supports and fosters collaborative writing and communication among the members of a learning community.

II The Research Question

The study that I was involved in within the context of my dissertation was designed initially to test the hypothesis that a computer mediated newspaper production enterprise created a suitable context for the emergence of collaborative language learning behavior conducive to language acquisition. In other words I was interested in finding out whether the collaborative activity system of newspaper production brought about through the use of an alternative instrumental mode of L2 CALL was effective. Subsequently, I was further interested in capturing the contrasting instrumental and agentive L2 CALL contexts and the distinct orientations to language learning they encapsulate so that I could compare in depth the language use, computer use, learning and teaching tasks and language growth that were invoked by these two contexts. Because of time constraints, however, I will report here only on the results of two sets of pre and post test scores which demonstrate the effectiveness of a newspaper producing activity system mediated by an instrumental mode computer technology under the specific conditions of that experiment.

III Method

Participants

Two groups of university level, first year third quarter students participated on an informed and voluntary basis in the study during one academic quarter (9 weeks). Eleven students participated in the agentive group and thirteen students participated in the

[9]Austen, J.L. How To Do Things With Words. Oxford: Clarendon Press, 1962.

instrumental group. Their level of French was comparable to that of an advanced beginner of French (i.e.; their French was hesitant, slow and anglicized but it was existent). They were heterogeneous groups with various fields of academic interest and levels of academic standing.

Two experienced teachers of French also participated in the study. The teacher of the instrumental group was already engaged in both L2 CALL development and experimental teaching in particular the production of videos.

Procedures

One group, the instrumental group, used the word processing functions and a shared directory on 6 Xerox dandelion workstations as well as the campus electronic mail program to produce a classroom newspaper. They used the word processing functions to draft and revise their articles, the shared directory to access everyone's work for reading, review and commenting and the electronic mail program to communicate with each other outside of the classroom context.

The agentive group used 20 IBM PCs to complete a series of nine fill-in the blank exercise sets on a weekly basis. The exercises were taken from the workbook of the textbook methodology Découverte et Création [10] used for the course and keyed into a program called Blankity Blank developed by Professor John Barson. Participants used the program to complete one exercise set every week and they made a print out of their work each week for their teacher.

Both classes were structured around the last eight chapters of the departmental textbook methodology Découverte et Création and the study of the literary text Le Petit Prince by A. de Saint Exupéry. Classes met five times a week for 50 minutes.

Classroom time in the agentive group was organized around the study of the textbook methodology and the study of Le Petit Prince. During this time language structures were presented and the group was engaged in classroom activities ranging from the highly structured choral response or drill to a more open-ended type of language learning practice such as question/answer routines based

10 Hester, R. and G. Jian with Gail Wade Découverte et Création: Les Bases du Français Modernes. Quatrième Edition, Boston: Houghton Mifflin Company, 1985.

on visual cues or group discussions.

In the instrumental group whole classroom sessions at the onset of the quarter were devoted to the newspaper producing enterprise. During those sessions participants were asked to commit to action in the newspaper production activity. These commitments to action were discussed in class. Participants then proceeded to collect information for their articles and with the drafting of their articles. One week of classes was scheduled at the computing center for participants to enter their work on the computer, and for the reading and commenting of the articles. Several drafts were also discussed in class and via the network. Finally, all the articles were put together into one newspaper we called L'Etoile Française and the experience culminated with a French diner at the Basque Cultural Center of a neighboring city.

The remaining class time was structured around the study of some parts of the textbook and Saint-Exupéry's Le Petit Prince.

Pre and post testing

For both groups one week at the onset of the quarter and one week at the conclusion of the quarter were devoted to in class and out of class testing. Four tests (two standardized and two holistic) were administered so as to capture language growth on different dimensions of language use in a testing situation. The two standardized tests were the College Board Achievement Test[11] and the writing section of the Modern language Association Cooperative test[12]. These were chosen as they are the most widely used tests in the field of foreign language education. Holistic testing of oral language use was performed by two outside ACTFL[13] certified testers using the Oral Proficiency Interview procedures[14]. Holistic evaluations of written language use developed by ETS[15] for first language acquisition were also performed on two composition topics (a letter and a fiction topic) by two outside French teachers. Due to time constraints I will report only one set of results from each of

[11]College Board

[12]Modern Language Association

[13]ACTFL

[14]Oral Proficiency Interview

[15]Educational Testing Service

the two types of tests

Analyses

Using SPSS (A Statistical Package for the Social Sciences) on an IBM PC, the means, standard deviations and t-tests were computed across groups on all pre and post test measures of language use. In addition, a gain score corresponding to the difference between pre and post test scores was calculated and the means, standard deviations and t-tests of that score was calculated across groups.

The Modern Language Association Cooperative test

The writing section of the MLA that was administered contains four sections: a 30 item, one word fill-in the blank section; a sentence transformation section containing eight question prompts that require pronominalization; a sentence combining section that contained eight question prompts each requiring the use of the subjunctive mood and a passage reconstruction section that requires the use of dehydrated phrases. With the exception of the first one word fill-in section, the scoring procedure for the test involves judgement scales defined by the test developers (e.g.; assign 3 points for an excellent sentence if the sentence is correct in all respects; or except for one or two minor errors that might be due to hurried copying of words in the model sentence; 2 points for a good sentence if etc...) Thus, all sections of the test, except the first fill-in section, were scored by an outside rater to avoid bias (i.e.; a French teacher who was a native speaker of French). The total score was calculated as the sum of scores assigned to each section of the test. The means, standard deviations and t-test of pre -test, post-test and gain scores across groups were then computed using SPSS.

The Oral Proficiency Interview

The 15 minute Oral Proficiency Interview was administered by two outside ACTFL certified interviewers once at the onset of the experiment and once at the conclusion of the experiment. Ratings for the interviews were made by the interviewers outside of the testing situation using the interview tapes. I also arranged (to avoid bias and when scheduling was possible) to have participants pre and post tested by different interviewers.

The OPI was rated according to levels of proficiency (i.e.; Novice, Intermediate and Advanced) with the first two levels further

subdivided into High, Mid and Low points and the third level divided into Advanced or Advanced Plus. Thus the ratings for the OPI were converted to an 8 point scale for computational purposes in the following manner: 1 Novice-Low; 2 Novice-Mid; 3 Novice-High, 4 Intermediate-Low; 5 Intermediate-Mid; 6 Intermediate-High, 7 Advanced, 8 Advanced-Plus. The means, standard deviations and t-tests of the pre-test, post test and gain scores across groups were calculated and results were further crosstabulated for each group to determine more precisely the nature of the gains in scores.

IV Findings

The Modern Language Association Cooperative test (Table 1)

Pre-test results on the Total test measure

The Instrumental group scored on average 34.3 points compared to the Agentive group which scored on average 33.4 points. The difference in performance was not statistically significant.

Post-test results on the Total test measure

The Instrumental group scored on average 47.3 points compared to the Agentive group which scored on average 53.5 points. The difference in performance was not significant.

Gain score results on the Total test measure

The Instrumental group gained on average 11.1. points compared to the Agentive group which gained on average 20 points. This difference in gain scores was significant below the .05 level.

The Oral Proficiency Interview (see Table 2)

Pre-test results on the OPI measure

The Instrumental group was rated on average 3.6 points compared to the Agentive group which was rated on average 3.9 points. These ratings both correspond to a Novice-Hi level of proficiency. The difference in ratings was not statistically significant.

Post-test results on the OPI measure

The Instrumental group was rated on average 5 points compared

to the Agentive group which was rated on average 5.3 points. These ratings both correspond to an Intermediate-Mid level of oral proficiency. The difference in ratings was not statistically significant.

Gain score results on the OPI measure

The Instrumental group gained on average 1.1 points and the Agentive group gained on average 1.4 points. The difference in rating gains was not statistically significant.

Pre and post test crosstabulation of results for the Agentive group (See Table 3)

The crosstabulation of ratings of the OPI measure for the Agentive group indicates the following distribution: 5 Participants crossed major thresholds of Oral Proficiency (2 from a pre-test Novice-High to a post test Intermediate-Low, 1 from a pre-test Novice-High to a post test Intermediate-Mid, one from pre test Novice-High to a post test Intermediate-High and one from an Intermediate-High to a post test advanced level of proficiency) And 5 participants progressed within a level of proficiency (3 from a pre test Intermediate-Low to a post test Intermediate-Mid, one from a pre test intermediate_low to a post test Intermediate-High and one from a pre test Intermediate-Mid to a post test Intermediate-High).

Pre and post test crosstabulation of results for the Instrumental group (See Table 4)

The crosstabulation of ratings of the OPI for the instrumental group indicate the following distribution of ratings: 3 participants crossed major thresholds of oral proficiency (1 from a pre test Novice-Mid to a post test Intermediate-Low and 2 from a pretest Novice-High to a Post test Intermediate-Mid); 2 participants progresses with a level of oral proficiency (1 from a pre test Intermediate-Low to a post test Intermediate-Mid and one from pre-test Intermediate-Low to a post test Intermediate-High.

V Discussion

The results reported here show gains for both groups on all measures with statistically significant differences for the agentive

group on the total test MLA measure.

Together the two sets of results may be interpreted in the following way. First, it is not possible to really compare the performance of both groups as the teachers were different as well as the learning and teaching tasks. What these results do show, however, is that under the conditions of the experiment language growth occurred for both groups. In other words, when an instrumental mode of computer use is introduced with all the changes that it carries in terms of classroom activity and language use, language growth as measured by these tests occurred.

Secondly, the following explanations may be constructed. Results on the MLA total test measure indicate that both groups gained in their abilities to write in the highly constrained testing contexts of language use. The significance of the difference in performance across groups indicates that the newspaper production enterprise was not sufficiently powerful to create conditions for the acquisition and use of language forms called for in the MLA testing situation in which case the activity system must be reassessed. Such a reassessment of the activity system would include language practice type activities comparable to those that were the primary mode of activity in the agentive group. Alternatively, it is possible that the MLA test could not pick up the actual language growth that occurred in the instrumental context as participants had not been "trained" in language practice type activities invoked in the MLA testing context. Finally it is possible that extraneous variables such as boredom or bad day enter the equation and these cannot be weeded out.

The magnitude of the gains on the OPI measure over a nine week period of time for both groups cautions the interpretation of these results. Thus two interpretations are considered. First, it is possible that participants in effect did make such high gains in their ability to use spoken French in the OPI testing context in which case both the agentive and instrumental L2 CALL contexts of language use together with the unique learning and teaching aptitudes of the participants created the exceptional conditions for the emergence of this behavior. Alternatively, it is possible that the reliability of the OPI ratings undermines the validity of the results. Thus, it is possible that despite the rigorous training of the raters through ACTFL certification, attrition of judgement occurs over time. To avoid bias I had arranged whenever possible to have participants pre

and post tested by a different rater. An examination of the crosstabulation of results on a case by case basis, however, indicates that 4 of the participants who had been pre and posted by different raters displayed gains across major thresholds of proficiency. Thus, while these cases do not account for all of the threshold gains, it does caution the interpretation.

VI Implications

The results of the experiment that were presented here indicate that an instrumental mode of computer use and the newspaper production activity system mediated by it constitute an effective L2 CALL context for language growth. Thus, the most important implication suggested here is that such a mode computer of use could be considered as an alternative to traditional agentive L2 CALL contexts in a foreign language learning.

Further research, however, needs to be undertaken to determine both the kinds of activity systems that could be mediated by an instrumental mode of computer use as well as the kinds of variation at the operational level of the activity system to include for example some language practice.

VII Conclusion

As this is a comparative study, the question of either/or, alternatively which mode is better or worse arises. It seems however that this is a question that cannot be answered in absolute. The different modes of computer use arise in radically different approaches to foreign language learning and instruction. They create different learning environments. They support different tasks. And they cater to different styles of learning and teaching. Thus, the only way, at present, to answer the comparative question is to say that it depends on the users (the teachers and the students): their preferences, what works for them, perhaps their willingness to let go of formal and structured approaches to foreign language learning and teaching.

Nina Garrett reports in the last issue of The Modern Language Journal that CALL technology is far from being integrated in the foreign language curriculum and that we cannot take for granted even their presence in every school and household. This tends to corroborate the question of computer literacy arising as a recursion

in language learning and teaching tasks. Some of the instrumental participants in this study, for example, complained that their efforts in foreign language learning were being directed towards learning how to operate the machines. Thus, the question of time and access enters the equation. When computer literate foreign language learners become instrumental CALL users, however, another problematic situation will arise.

Finally, the question of whether French can be learned or taught with the computer arises. This study is largely built on the assumption that the computer cannot *teach* foreign languages and it is not empirically possible to tease out the foreign language learning that is acquired off the computer. Thus, perhaps the most important lesson to be learned from this study is that computers *do* not teach French and French cannot be learnt exclusively off the computer. The study demonstrates that French can be learnt through meaningful interactions and an investment in meaningful tasks which are created and supported by a particular mode of computer use. It also demonstrates that French can be learned when a traditional mode of computer use is operational as an adjunct learning and teaching environment. The use of the computer in an agentive mode, however, recreates a language learning and teaching environment that both research and praxis tell us do not work. An instrumental mode functions as a catalyst for the participation of all users in personally meaningful action. The problem with this mode is that it is still "buggy". There are few instrumental foreign language CALL programs (programs with foreign language interfaces, for example), users are not yet uniformly computer literate (in an instrumental way, not as programmers), the myths of computer agentivity permeate usage, teachers are skeptical -and rightly so given top-down commercialization strategies and the mythical structure of agentivity surrounding CALL design.

Table 1-Comparison of the mean pre test, post test and gain scores on the MLA total test measure across groups

		Instrumental	Agentive	
		n=13	n=11	t(df=22)
Pre-test	M	34.3	33.4	
	(SD)	(13.3)	(11.6)	0.1
		n=11	n=11	t(df=20)
Post-test	M	47.3	53.5	
	(SD)	(16.4)	(11.9)	-1.0
		n=11	n=11	t(df=20)
Gain score	M	11.1	20.0	
	(SD)	(6.4)	(11.6)	-2.2*

*p<.05;**p<.01;***p<.001

Table 2-Comparison of the mean pre-test, post-test and gain scores on the OPI ratings across groups

		Instrumental	Agentive	
		n=13	n=12	t(df=23)
Pre test	M	3.6	3.9	
	(SD)	(1.1)	(.9)	-0.5
		n=9	n=10	t(df=17)
Post-test	M	5.0	5.3	
	(SD)	(.7)	(.9)	-0.7
		n=8	n=10	t(df=16)
Gain score	M	1.1	1.4	
	(SD)	(.9)	(.6)	-0.6

*p<.05;**p<.01;***p<.001

Table 3-Pre and post test crosstabulation of ratings for the Agentive group (n=10)

	Post test			
	Intermediate-Low	Intermediate-Mid	Intermediate-High	Advanced
Pre test				
Novice-High	2	1	1	•
Intermediate-Low	•	3	1	•
Intermediate-Mid	•	•	1	•
Intermediate-High	•	•	•	1

Table 4-Pre and post test crosstabulation of ratings for the Instrumental group (n=8)

	Post test		
	Intermediate-Low	Intermediate-Mid	Intermediate-High
Pre test			
Novice-mid	1	.	.
Novice-High	.	2	.
Intermediate-Low	.	1	1
Intermediate-Mid	.	2	.
Intermediate-High	.	.	1

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Instrumental and Agentive CALL in Learning French as A Foreign Language

I Framework

	Agentive L2 CALL	Instrumental L2 CALL
Assumptions		
-Language	-Closed system	-Open-system
	-Chomskyan view	-Hymesyan view
	-grammatical competence	-Communicative competence /SPEAKING
	-decontextualized	
-Learning	-Practice of 4 skills	-Participation in an activity system
	-rote memorization	-"i+1 input" -ZOPED
	-repetition	-Communication
-Teaching	-Presentation of carefully sequenced "building blocks"	-Scaffolding
		-Collaboration
		-Activity system
	-Audio-lingual from behaviorism	-L2 psycholinguistics
		-Soviet Activity theory
		-Contemporary paradigm of Literacy
L2 CALL design	Tutors	Word processing
	Drillmasters	Electronic mail
	Tasksmasters	Shared directory
		Data base

II Research question

The effectiveness (?) of a computer-mediated newspaper production activity system as an L2 CALL context for foreign language learning.

-Corollary questions: The dialectics of computer use (i.e.; the changes brought about as a result of introducing instrumental technology. The design of L2 CALL technology (i.e.; tailoring of existing technology to meet the specific needs of the L2 learning and teaching community).

III Method

Participants

-Two groups of first year, third quarter college students learning French as a foreign language (24 students)

Procedures

-One academic quarter (9 weeks), 5 (50 minute) sessions per week

- Découverte et Création methodology and study of Le Petit Prince

-Computer-mediated newspaper production activity system

-Drill and practice of workbook exercises amenable to computerization

Pre and Post testing

Standardized and Holistic measures

-The writing section of the Modern Language Association Cooperative test (MLA) (*Total test measure only is reported*)

-The Oral Proficiency Interview (OPI)

-Holistic rating of 2 composition tasks developed by the Educational Testing Service (*not reported here due to time constraints*)

-The College Board Achievement test (CEEB) (*not reported here due to time constraints*)

Analyses

-Statistical analysis (using SPSS) of the means and t-tests of pre-test, post-test and gain scores (the difference between pre and post test scores).

-Pre -test- post-test crosstabulation of scores for the Oral Proficiency Interview measure.

IV Findings

Table 1-Comparison of the mean pre test, post test and gain scores on the MLA total test measure across groups

		Instrumental	Agentive	
		n=13	n=11	t(df=22)
Pre-test	M	34.3	33.4	
	(SD)	(13.3)	(11.6)	0.1
		n=11	n=11	t(df=20)
Post-test	M	47.3	53.5	
	(SD)	(16.4)	(11.9)	-1.0
		n=11	n=11	t(df=20)
Gain score	M	11.1	20.0	
	(SD)	(6.4)	(11.6)	-2.2*

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		n=9	n=10	t(df=17)
Post-test	M	5.0	5.3	
	(SD)	(.7)	(.9)	-0.7
		n=8	n=10	t(df=16)
Gain score	M	1.1	1.4	
	(SD)	(.9)	(.6)	-0.6

*p<.05;**p<.01;***p<.001

Table 3-Pre and post test crosstabulation of ratings for the Agentive group (n=10)

	Post test			
	Intermediate-Low	Intermediate-Mid	Intermediate-High	Advanced
Pre test				
Novice-High	2	1	1	•
Intermediate-Low	•	3	1	•
Intermediate-Mid	•	•	1	•
Intermediate-High	•	•	•	1

Table 4-Pre and post test crosstabulation of ratings for the Instrumental group (n=8)

	Post test		
	Intermediate-Low	Intermediate-Mid	Intermediate-High
Pre test			
Novice-mid	1	*	*
Novice-High	*	2	*
Intermediate-Low	*	1	1
Intermediate-Mid	*	2	*
Intermediate-High	*	*	1

V. Discussion

- Written language use in a standardized testing context
-Oral language use in a holistic testing context

VI. Implications

-Considerations for the use of instrumental L2 CALL in foreign language learning
-Further research

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